

point is, of course, that the group of isograms drawn on time coordinates is left without a specific name if the term *isopleth* is applied to isograms in general.

On page 78 we note a curious attempt to distinguish between a "*dekad*" and a decade. We have not previously encountered the term *dekad*, but it is obviously a truncated form of the German word *Dekade*, which is precisely equivalent in meaning and application to the English word *decade*. Any group of 10 is a decade, whether it be of days, years, or what not. Decades of days were a feature of the French republican calendar, and have been used to some extent in meteorology (e. g., in the "*Dekadenberichte*" of the *Deutsche Seewarte*), though not so frequently as pentads.

The definition of *cumulo-stratus* on page 77 should be rewritten or omitted. "The name given to a certain combination of cloud forms which is no longer used in the international classification" is a sentence that, besides inviting the animadversion of grammarians, does not help us to identify the clouds in question; and the reference "*See Clouds*" leads nowhere, as this term is not mentioned under "*Clouds*." The history of the name *cumulo-stratus* is traced at some length by Clayton in the *Annals of Harvard College Observatory*, volume 30, part 4, page 328-329.—*C. F. Talman*.

SOME OFFICIAL PUBLICATIONS OF THE BRITISH METEOROLOGICAL OFFICE.

[From Met'l. Off. Circs. 29, 30 and 37, 1919.]

Professional Notes.—A new series of publications has been started recently with the general title *Professional Notes*.

These notes are printed on sheets uniform with this [Met'l Off.] Circular [8 vo.] so that they are more convenient for handling and for binding than the *Geophysical Memoirs*.

Professional Notes, No. 1. ON THE INTERRELATION OF WIND DIRECTION AND CLOUD AMOUNT AT RICHMOND (KEW OBSERVATORY). By David Brunt.

This note was published "confidentially" in April, 1918. The aim of the investigation was to discover, if possible, whether a relationship, which would be of aid in forecasting cloud amount, could be established between the direction of the wind and the cloud amount, and further to determine the frequency of the clearing of the sky at night with winds of different directions. For this purpose tables of frequencies of different cloud amounts for different wind directions have been compiled for the hours of 10h., 16h., and 22h. for each month, the observations of wind and cloud at Kew Observatory for the years 1899-1913 being used. In the discussion of these tables the following points have been brought out: Firstly, that the months group themselves into two distinct types, winter and summer, between which are two months of transition, April and October; secondly, that SW. and W. winds are by far the most prevalent, forming 50 per cent of the total; thirdly, that the tables for 22h. show a marked increase of clear skies for all months, but the most striking cases of diurnal variation are shown by E. winds in August, SW. winds from July to October, and W. winds especially during August and November.

Each of the wind directions (eight points) have been discussed separately from the point of view of cloud amount, and it was noticed that winds with an easterly component give very cloudy skies at Richmond. In order to get some indication as to how far this is due to London smoke being carried by such winds tables for Greenwich for January and July have been compiled. Greenwich appears to be less cloudy on the whole than Richmond, but the differences are not sufficiently great to be important.

Professional Notes, No. 2. NOTES ON EXAMPLES OF KATABATIC WIND IN THE VALLEY OF THE UPPER THAMES AT THE AEROLOGICAL OBSERVATORY OF THE METEOROLOGICAL OFFICE AT BENSON, OXON. By E. V. Newnham.

This is a short discussion on the night breeze which occurs in settled fine weather at Benson and which blows from the direction of the Chiltern Hills. From the records of the tube anemometer the writer chooses nine examples of this type of wind for discussion and shows that it must be classified as a "katabatic" wind representing the downward flow of air cooled by radiation on the slopes of the hills. Anemograms for six of these cases are reproduced as halftone illustrations. For the nine selected nights hourly means of the wind velocity, temperature, and gustiness are worked out and the results plotted.

Professional Notes, No. 3. INCIDENCE OF FOG IN LONDON ON JANUARY 31, 1918. By C. E. P. Brooks.

This is an account of the development and distribution of the fog which prevailed in the London area during the three days January 30 to February 1, 1918. From various personal experiences and accounts of the disorganization of traffic, the writer has compiled a map of the fog intensity, assigning to the various districts figures 0 to 5 on the scale of the London Fog Inquiry. This map shows that the thick fog was chiefly confined to the low ground in the valley of the Thames upstream from Fulham and to the tributary valleys of the Beverly Brook and the River Wandle, the high ground on the north and south being relatively clear.

Particulars of the pressure, wind and temperature for the three days so far as they are known to the meteorological office are given. The maps show a high-pressure area over southeast England, France, and Germany, with light easterly airs. These conditions at the surface appear to have been accompanied by a wind from 10 to 20 miles per hour from the south up above and by a marked temperature inversion. The writer describes the fog as a "typical radiation fog of anticyclonic weather," and suggests that the hills on either side contributed a gravitational flow of cold air sweeping the fog from the higher ground into the valley of the Thames and preventing any tendency to overflow north and south.

Professional Notes, No. 4. UPPER AIR TEMPERATURES AT MARTLESHAM HEATH, FEBRUARY, 1917, to JANUARY, 1918. W. F. Stacey.

The temperature observations of the upper air made in aeroplanes by the testing squadron of the R. F. C. stationed at Martlesham Heath, Ipswich, have been utilized in the preparation of this note.

Professional Notes, No. 5. ON THE USE OF THE NORMAL CURVE OF ERRORS IN CLASSIFYING OBSERVATIONS IN METEOROLOGY. By Capt. E. H. Chapman.

In this paper the theory of statistics is applied to the discussion of such questions as the interpretation of the terms "usual," "not unusual," and "exceptional" with reference to various meteorological phenomena.

Professional Notes, No. 6. THE VARIATION OF WIND VELOCITY WITH HEIGHT. By Capt. E. H. Chapman.

The author puts forward an empirical rule that the speed of the wind in the lower layers is a linear function of the logarithm of the height.

Professional Notes, No. 7. "THE CLIMATE OF NORTH-WEST RUSSIA."

This was prepared for the use of the British forces acting on the Murman coast. The general climate is discussed for the district extending from the Arctic Ocean on the north to Petrograd and the Gulf of Finland on the south, and from the Swedish frontier on the west to 45° E. on the east. It deals with the dates of the thawing and freezing of the rivers. The temperature of the upper air is discussed, and other meteorological information is given.

SMITHSONIAN METEOROLOGICAL TABLES.

[Fourth revised edition. Preface reprinted.]

The original edition of the Smithsonian Meteorological Tables was issued in 1893, and revised editions were published in 1896, 1897, and 1907. A fourth revised edition is here presented, which has been prepared under the direction of Prof. Charles F. Marvin, Chief of the United States Weather Bureau, assisted by Prof. Herbert H. Kimball. They have had at their disposal numerous notes left by the late Prof. Cleveland Abbe, and have consulted with officials of the United States Bureau of Standards and of other Government bureaus relative to the value of certain physical constants that have entered into the calculation of the tables.

All errata thus far detected in the earlier editions have here been corrected. New vapor pressure tables, derived from the latest experimental values by means of a modification of Van der Waals interpolation formula, devised by Prof. Marvin, have been introduced.* The table of relative acceleration of gravity at different latitudes has been recomputed from a new equation based upon the latest investigations of the United States Coast and Geodetic Survey. These values have been employed in

* A discussion of these is being prepared for a later issue of the REVIEW.